Installation and Operating instructions for LexCom Home AV Modulator AV110

AV110 includes the following parts:

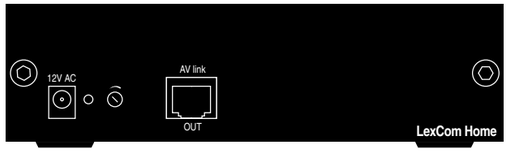
1 pcs. Modulator AV110
1 pcs. Net adapter 230 Volt 50 Hz to 12 Volt AC
1 pcs. AV cable 3 x phono to 3 x phono, length 1 m
1 pcs. Unbrako key 2.5 mm
4 pcs. self-adhesive rubber legs

Description of AV110-4 / AV110-1

2 versions of AV modulators are offered, that in their basic functions are identical. The difference lies mainly in the fact that they support 1 respectively 4 inputs and relative adjustable TV-channels. The present instructions are valid for both versions.

AV110 is for dedicated use with in the LexCom Home system only.

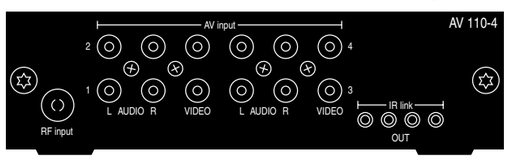
AV110 is a modulator unit that enables the connection of devices such as VCR machines, DVD players, satellite receivers, surveillance cameras, PC's (with TV output) to the "AV link" of the LexCom Home network, so that the signals from these can be transmitted to all TV sets connected.
The function implies the installation of a LexCom Home multimedia amplifier with "AV link" input in the LexCom Home network.



On front, AV110 has a supply plug for a 12V AC net adapter, a blue light diode indicating normal operation and alarm modes, a gain adjustment as well as an "AV link" output jack (RJ45) for the connection to the **LexCom Home** network.

AV110-4

On back, AV110-4 is provided with an aerial input, 4 inputs for video composite signals with stereo sound, as well as 4 "IR link" connections for the transmission of remote control signals.



AV110-4 can convert 4 video signals (composite video) to RF TV signals, with mono sound. Moreover, an external RF-signal (120-860 Mhz) can be connected and transmitted directly to the LexCom Home network using the RF-input.
AV110-4 has been constructed in such a way that none of the 4 channels can be set to the same TV-channel. Moreover, neighbouring channels to a selected channel cannot be selected. The reason is to prevent disturbances of the TV-picture due to interference.

AV110-1

On back, AV110-1 is provided with an aerial input, 1 input for video composite signals with stereo sound, 1 IR link connection for the transmission of remote control signals as well as a 12 V DC output for the supply of a CCTV surveillance camera.

AV110-1 can convert 1 video signal (composite video) to a RF TV signal, with mono sound. Moreover, an external RF-signal (120-860 Mhz) can be connected and transmitted directly to the LexCom Home network.

Installation of AV110:

The video equipment, whose signals you want to distribute in the LexCom Home "AV link" is connected to the AV input/inputs on back of AV110.

Please pay attention to the fact that although AV110 has stereo inputs, the audio signal will be converted to mono sound on the TV sets connected.

When all video sources have been connected (1 source on AV110-1 / up to 4 sources on AV110-4), the modulators are to be set to the channels wanted, that at the same time are free in the programme package of the TV supply (Refer to the following section setting of TV channels).

Upon setting of AV110, the "AV link" output is to be connected by means of a shielded patch cord (Cat.6) from the rectangular RJ45 jack on the front, via the nearest wall outlet to the LexCom Home network. Cord lengths exceeding 5 m should not be used.

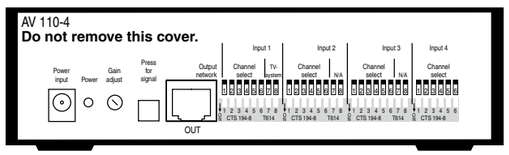
In connection with control of the video sources connected to AV110, LexCom Home IR system IR110 must be used. IR emitters are connected to the "IR link" jack on AV110.

Configuration of AV110

The TV-system used must be set for the country in question (Factory set to : West Europe)
On AV110-4 must be set up to 4 TV channels
On AV110-1 must be set 1 TV channel (in the following called TV channel).

Setting of TV channels and general configuration of AV110 is made on switches located behind the front plate. The 2 Unbrako screws on front of AV110 are unscrewed by means of the Unbrako key delivered, and the front plate is removed with care (in case plugs for the net adapter and output for "AV link" have been inserted, these are removed first).

Behind the front plate there is a piece of cardboard, which protects the sensitive electronic parts within AV110.



Do not try to remove this cardboard, as the result may be destruction of the unit. If removal or attempted removal of this cardboard can be ascertained, the guarantee will be repealed. The piece of cardboard contains holes for the various jacks, the light diode and 4 blue switch blocks (Input 1-4) with white contacts. Below the white pushbuttons, these are numbered from 1 to 8. In AV110-4, contact 7 and 8 on input 2, 3 and 4 are NOT used. AV110-1 contains only 1 switch block (Input 1).

Above the blue switch blocks, the cardboard indicates the AV input which is set with the switch block in question.

Configuration of TV-system (PAL-type)

First the TV-system used in the country, where AV110 is installed, is determined. On the switch block for input 1, contact 7 and 8, the TV system valid in general for all inputs is selected.

Setting of contact 7 and 8 for TV-system. The setting is made only on the input 1 switch block in A110-4.

If the wrong system is selected, this may result in no colours on the pictures, missing sound or no picture at all.

Setting of TV channels:

If possible, an overview of the TV channels connected on the LexCom Home network should be prepared prior to the setting. This implies the establishment of an overview of the TV channels that can be received on the TV sets connected (channels or frequencies).

Then the free TV channels which you want to use for the video signals connected to AV110 are selected.

The user may freely select the TV channels dedicated to the AV inputs, based on the possible settings shown in the channel table (switch-settings). However, this will be limited by the number and location of the locally available TV channels in the same channel area.
Selection of TV channels that have already been taken in the cable-TV package delivered by an external supplier is not possible.

For each AV input to which a signal source (video composite + LF audio) has been connected a TV channel must be set.

- TV-channels are set by means of the contacts 1-6 in a pattern corresponding to the TV channel which you want to set for the AV input in question.
- Setting of the contacts is made in accordance with the channel table for the TV-system in question.
- Contacts can be set using a small screwdriver or the point of a pencil.

Note:

Pay attention to the fact that no neighbouring channels in AV 110-4 can be selected, as the result may be noise problems on the channels. In general, the selection of a TV channel immediately next to another channel is not possible. Consequently, it will not be possible to get a good result, if you select channel 10, and there already is a TV station on channel 9 or 11.

Turn-off of channel

If you do not want to use one or several channels, they should be turned off (disabled) by pressing all white keys down. This may prove to be very useful, in case there are many TV stations in the channel area. Then the vacant channels for the video inputs not in use cannot disturb the existing TV stations.

Start-up:

Upon selection of TV-system and setting or turn-off of the wanted channels, first the RJ45 jack (AV link) for the connection of AV110 to the LexCom Home network is connected.
Then the 12V AC net adapter is connected. The blue light diode will turn on.

If the light diode flashes, please note the speed of the flashing. If for instance there are 2 flashes followed by an interval and then 4 flashes, there is a conflict in the selection of channels between input 2 and 4. Maybe these have been set on the same channel or neighbouring channels.

If this is the case, another TV channel for one of the inputs must be selected. In order to store new settings, the net adapter plug is pulled out, and after 10 seconds it is put back again.

Setting of TV:
On front of the piece of cardboard a point has been indicated which you may press in order to start a test picture- and sound generator. When this is active, the blue light diode will flash constantly with a quick blinking speed. This picture- and sound signal may be used for the search and setting of the TV channels (coming from AV110) on the TV-sets.

If you have selected the correct channel on the TV-sets connected, you will see 2 vertical white lines on a black background. At the same time there will be a 1000Hz tone in the loudspeakers. The picture- and sound generator is turned off by pressing the signal button again, or by turning the power to AV110 off and on.

Due to interference between different channels you may see disturbed pictures. If this is the case, you may try another channel combination.
Please bear in mind that change of the channel settings in AV100 will enter into force only when the power to AV110 has been turned off for 10 seconds and turned on again.

Upon finalisation of setting AV110 and with constant light in the blue light diode, the plugs on the front are removed again and the front plate is mounted with care and fastened by means of the screws delivered.

The output level of the TV picture from AV110 may be adjusted by means of the Gain screw on front of AV110. Adjustment is made until the best picture quality is obtained. The following applies in general:

- When installing AV110 where the distance to the LexCom Home distribution centre is long, the level of the signals must be increased, in order to avoid a TV picture with noise.
- When installing AV110, where the distance to the LexCom Home distribution centre is short, the intensity of the signals must be reduced, in order to avoid oversteering of the TV picture.

Please note: Due to the radiation of noise it is important that the front plate be mounted with both screws immediately after the setting.

Technical specifications

Power supply	12V AC
Power consumption	< 6Watt (AV110-4) < 4Watt (AV110-1)
Frequency band	130 - 670 MHz
Input sensitivity	0,5 Vpp
Video Input Impedance	75 Ohm, Phono (RCA)
Audio Input Impedance	10 kOhm, Phono (RCA)
Output level	95 dB µV
Output Impedance	100 Ohm, ballanced (RJ45)
Gain attenuation	Min. 0-20 dB
Modulation	Double sideband
TV System, output	PAL B/G, L, I and D (selectable)
Sound	Mono
Extra input (RF)	75 Ohm, IEC female (120-860 MHz)
Operating temperature	0-35 oC
B x H x D	170 x 47 x 165
Weight	0,80 kg
Standards	EN 55020 EMC-directive 89/336/EEC
12V DC output, AV110-1 only	max. 200 mA

Channel tables:

To each setting, the TV channel and corresponding frequency (MHz) is stated.

Switch settings for BG Europe

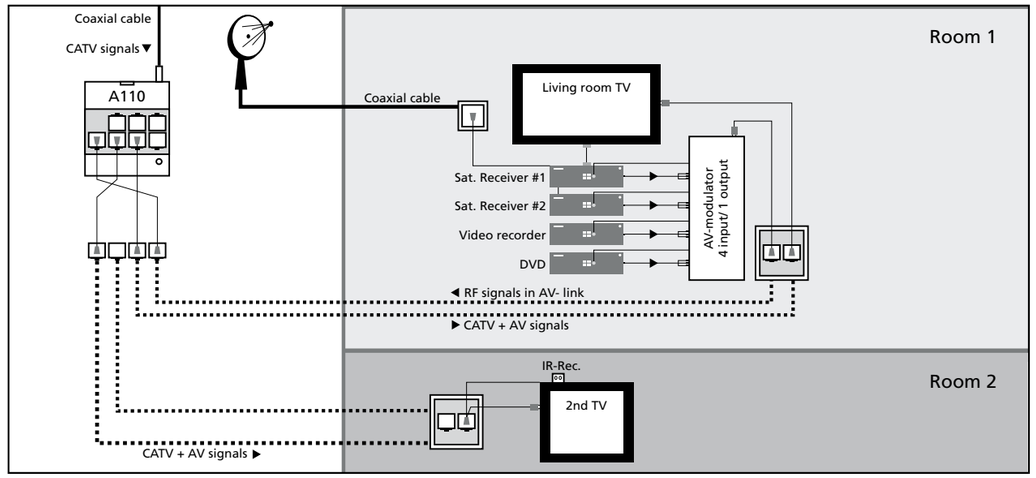
		S23	319.25	CH29	535.25	S21	303.25	CH27	519.25	I-08	207.25	S-36	423.25	CH-42	639.25	R-17	263.25	S-25	335.25	S-34	407.25	CH22	479.25	CH31	551.25	CH40	623.25
S5	133.25	S24	327.25	CH30	543.25	S22	311.25	CH28	527.25	I-09	215.25	S-37	413.25	CH-43	647.25	R-18	271.25	S-26	343.25	S-35	415.25	CH23	487.25	CH32	559.25	CH41	631.25
S6	140.25	S25	335.25	CH31	551.25	S23	319.25	CH29	535.25	I-10	223.25	S-38	439.25	CH-44	655.25	R-19	279.25	S-27	351.25	S-36	423.25	CH24	495.25	CH33	567.25	CH42	639.25
S7	147.25	S26	343.25	CH32	559.25	S24	327.25	CH30	543.25	I-11	231.25	S-39	447.25	CH-45	663.25	R-20	287.25	S-28	359.25	S-37	431.25	CH25	503.25	CH34	575.25	CH43	647.25
S8	154.25	S27	351.25	CH33	567.25	S25	335.25	CH31	551.25	I-12	239.25	S-40	455.25	CH-46	671.25	R-21	295.25	S-29	367.25	S-38	439.25	CH26	511.25	CH35	583.25	CH44	655.25
S9	161.25	S28	359.25	CH34	575.25	S26	343.25	CH32	559.25	I-13	247.25	S-41	463.25	Disable		S-21	303.25	S-30	375.25	S-39	447.25	CH27	519.25	CH36	591.25	CH45	663.25
S 10	168.25	S29	367.25	CH35	583.25	S27	351.25	CH33	567.25	I-14	255.25	CH21	471.25			S-22	311.25	S-31	383.25	S-40	455.25	CH28	527.25	CH37	599.25	CH46	671.25
e5	175.25	S30	375.25	CH36	591.25	S28	359.25	CH34	575.25	I-15	263.25	CH22	479.25	R-06	175.25	S-23	319.25	S-32	391.25	S-41	463.25	CH29	535.25	CH38	607.25	Disable	
e6	182.25	S31	383.25	CH37	599.25	S29	367.25	CH35	583.25	I-16	271.25	CH23	487.25	R-07	183.25	S-24	327.25	S-33	399.25	CH21	471.25	CH30	543.25	CH39	615.25		
e7	189.25	S32	391.25	CH38	607.25	S30	375.25	CH36	591.25	I-17	279.25	CH24	495.25	R-08	191.25												
e8	196.25	S33	399.25	Disable		S31	383.25	CH37	599.25	I-18	287.25	CH25	503.25	R-09	199.25												
e9	203.25	S34	407.25			S32	391.25	CH38	607.25	I-19	295.25	CH26	511.25	R-10	207.25												
e10	210.25	S35	415.25	L-05	176.00	S33	399.25	CH39	615.25	S-21	303.25	CH27	519.25	R-11	215.25												
e11	217.25	S36	423.25	L-06	184.00	S34	407.25	CH40	623.25	S-22	311.25	CH28	527.25	R-12	223.25												
e12	224.25	S37	431.25	L-07	200.00	S35	415.25	CH41	631.25	S-23	319.25	CH29	535.25	R-13	231.25												
s11	231.25	S38	439.25	L-08	208.00	S36	423.25	CH42	639.25	S-24	327.25	CH30	543.25	R-14	239.25												
S12	238.25	S39	447.25	L-09	216.00	S37	431.25	CH43	647.25	S-25	335.25	CH31	551.25	R-15	247.25												
S13	245.25	S40	455.25	L-10	224.00	S38	439.25	CH44	655.25	S-26	343.25	CH32	559.25	R-16	255.25												
S14	252.25	S41	463.25	L-11	232.00	S39	447.25	CH45	663.25	S-27	351.25	CH33	567.25														
S15	259.25	CH21	471.25	L-12	240.00	S40	455.25	CH46	671.25	S-28	359.25	CH34	575.25														
S16	266.25	CH22	479.25	L-13	248.00	S41	463.25	CH47	679.25	S-29	367.25	CH35	583.25														
S17	273.25	CH23	487.25	L-14	248.00	CH21	471.25	Disable		S-30	375.25	CH36	591.25														
S18	280.25	CH24	495.25	L15	256.00	CH22	479.25			S-31	383.25	CH37	599.25														
S19	287.25	CH25	503.25	L16	264.00	CH23	487.25			S-32	391.25	CH38	607.25														
S20	294.25	CH26	511.25	L17	272.00	CH24	495.25			S-33	399.25	CH39	615.25														
S21	303.25	CH27	519.25	L18	280.00	CH25	503.25			S-34	407.25	CH40	623.25														
S22	311.25	CH28	527.25	L19	288.00	CH26	511.25			S-35	415.25	CH41	631.25														

Switch settings for France

Switch settings for East Europa

Switch settings for UK

Conseptual Installation



Trouble shooting

Problem	Reason	Solution
No AV modulator signals at all.	1. Power not connected! 2. Conflicts between selected AV channels causes the AV modulator to shut down! 3. Wrong patching in the distribution centre! 4. Wrong TV system selected! 5. AV modulator not working / faulty!	1. Connect the power adapter. Check that the power LED indicator lights up permanently. 2. Select a new AV channel for the input indicated by the flashing LED. Refer to relevant chapter in this installation guide. 3. Check the patch cord connections up to the AV link port on the R/TV amplifier. If AV combiner used also check these connections. 4. Select right TV system. Refer to relevant chapter in this installation guide. 5. Replace.
Poor picture on AV signal(s).	1. Output level from the AV modulator is too weak! 2. Wrong TV system selected! 3. AV signals being interfered by other TV channels! 4. Poor or broken patch cable between AV modulator and wall outlet! 5. AV modulator not working properly! 6. R/TV module not working properly!	1. Increase the gain (output volume) on the AV modulator until a clear picture is obtained. 2. Select the right TV system. Refer to relevant chapter in this installation guide. 3. Select another TV channel to the AV input being interfered. Refer to relevant chapter in this installation guide. 4. Replace to new one. Use only STP Cat.6 patch cable, max. 5m. 5. Replace. 6. Replace R/TV module.
Poor sound on AV signal(s).	1. Audio inputs of AV modulator are being over steered! 2. Poor of broken audio interconnection cable between AV modulator and source!	1. Decrease the output volume from the source connected. Refer to the manual of the appliance in question. 2. Check the cables and replace if necessary.
Disturbances on other TV channels when the AV modulator is connected.	1. Output level from the AV modulator is too high! 2. The AV signals are interfering with other TV channels!	1. Reduce the gain (output volume) on the AV modulator until clear TV channels are obtained. Make sure that the quality of the AV signals is maintained. 2. Select another channel for the AV signal where the interference is gone. Refer to relevant chapter in this installation guide.
Test signal disappears from the TV shortly after being activated.	1. The black and white test picture puts heavy demands on to the TV's ability to support the contrasts of the picture!	1. Some TV's are simply unable to show such a test picture. Search for a live picture instead.